

## ABSTRACT

A PMR write head has a stitched shield formation which results in a strong perpendicular write field with sharp vertical gradients. The shape of the stitched shield is determined by two design parameters,  $d=1/2(W_{\text{SWSLE}} - W_{\text{MPTE}})$ , and  $T_{\text{SWS}}$ , where  $W_{\text{SWSLE}}$  is the width of the leading edge of the stitched shield in the ABS plane,  $W_{\text{MPTE}}$  is the width of the trailing edge of the main magnetic pole in the ABS plane and  $T_{\text{SWS}}$  is the thickness of the stitched shield. By a proper choice of these parameters, the write field of the head is sharply limited in the cross-track direction, so that adjacent track erasures are eliminated.